

13

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Adhesive from the algae of the White Sea A. I. Vedrinskii. *Trudy Arkhangel. Vodoroslevogo Nauch. Issledovatel. Inst. Vodorosli Belogo Morya* 1938, 184-95, Chem. Zentr. 1939, II, 387. Various methods were tested after preliminary extn. of mannitol, I and K salts. The best method was as follows: The dry algae were finely ground, 25-35% of its wt. of soda was added and an amt. of water such that the dry content after mixing was 15%. This was allowed to stand 2-4 hrs. with or without heating. The product so obtained can be used directly as adhesive and is not inferior to the adhesive prepd. from Ca alginate and soda. The yield is about 6 times as great as that obtained with the Ca alginate.

AL G. Moore

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

100000 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00

ACC NR: AP7002673 SOURCE CODE: UR/0109/67/012/001/0137/0139

AUTHOR: Bogdanov, G. B.; Vedrigan, V. Ye.

ORG: none

TITLE: Thermal stability of the resonant frequency of spherical SHF-resonators

SOURCE: Radiotekhnika i elektronika, v. 12, no. 1, 1967, 137-139

TOPIC TAGS: ferroelectric material, ferroelectric property, superhigh frequency, microwave component

ABSTRACT:

Thermal stability of the resonant frequency of spherical ferrite resonators was studied. A ferrite resonator (parameters:  $2\Delta H = 100$  a/m;  $M_0 = 1.4 \times 10^5$  a/m;  $d = 1.2$  mm) was placed in a circular polarization plane of the electromagnetic field located in a round opening in a single-mesh waveguide filter. The effects of the round opening on the ferromagnetic resonator were neglected. Temperature dependence of the anisotropic frequency deviation  $\Delta f$  on the isotropic resonance frequency corresponding to the coordinate origin of the filter was determined experimentally (see Fig. 1).

Card 1/2

UDC: 621.372.413.001.5

ACC NR: A27002673

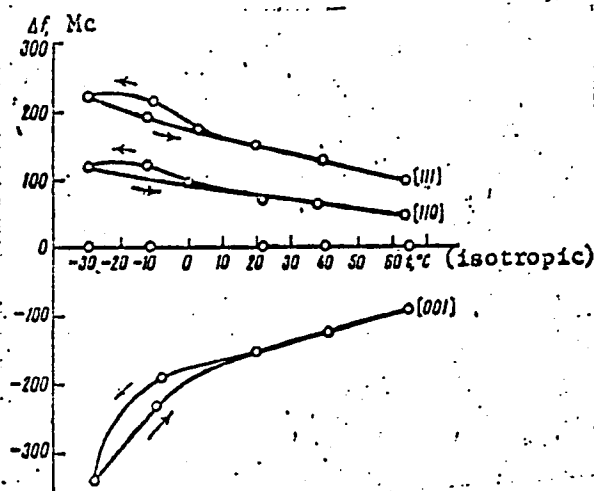


Fig. 1. Temperature dependence of the anisotropic frequency deviation  $\Delta f$  on the isotropic resonance frequency

A temperature hysteresis of the anisotropic deviations was found in the negative temperature region. Average temperature drift for the  $[111]$ ,  $[110]$ , and  $[001]$  axes was  $-1.2$ ,  $-0.1$ , and  $-1.5$  Mc/C, respectively, but for the isotropic axis it was tens of megacycles (such small slopes cannot be seen in Fig. 1). Orientation of ferrite resonators along their isotropic resonance axis is fully effective only for narrow-band applications, owing to the occurrence of some non-uniform processes in the ferromagnetic material. Orig. art. has: 3 figures.

SUB CODE: 09/ SUBM DATE: 14Jun66/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5111  
Card 2/2

KIVERIN, Mikhail Dmitriyevich; SMIRNOVA, Mariya Grigor'yevna; VEDRINSKIY,  
A.I., otv. za vypusk

[Organic chemistry] Predmet i sodержanie organicheskoi khimii.  
Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1960. 20 p.  
(MIRA 14:1)

(Chemistry, Organic)

KOLESNIKOV, N.N.; VEDRINSKIY, R.V.

Hypernuclei with two  $\Lambda$ -particles and their decay. Zhur. eksp.  
i teor. fiz. 46 no.5:1648-1652 My '64. (MIRA 17:6)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo  
universiteta.

ACCESSION NR: AP4037578

S/0056/64/046/005/1648/1652

AUTHORS: Kolesnikov, N. N.; Vedrinskiy, R. V.

TITLE: Hypernuclei with two particles and their decay

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1648-1652

TOPIC TAGS:  $\Lambda$  particle, hypernucleus decay,  $\Lambda\Lambda$  interaction, global symmetry, two particle decay, three particle decay

ABSTRACT: Theoretical arguments are presented in favor of the existence of bound states of two  $\Lambda$  particles with nucleons, assuming no repulsion center in  $\Lambda\Lambda$  interactions. A condition is derived for the energetic impossibility of the decay of a hypernucleus with emission of a  $\Lambda$  particle, and the order of magnitude of the binding energy is estimated on the basis of global symmetry. It is shown that a correlation should exist between the directions of emission of the pions produced in the decay of such systems. The successive

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ACCESSION NR: AP4037578

meson decay of light hypernuclei with two particles is considered for the case when the first decay is either two-particle or three-particle, and the cross sections are evaluated for each case. Angular and energy distributions are estimated for some of the latest published data. Orig. art. has: 9 formulas.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Institute, Moscow State University)

SUBMITTED: 10Jul63

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: GP, NP

NR REF SOV: 003

OTHER: 010

Card 2/2

L 14513-65 EWT(m) DIAAP/SSD/AFWL/ESD(t)

ACCESSION NR: AP5000324

S/0050/64/047/005/1740/1741

AUTHORS: Kolesnikov, N. N.; Vedrinskiy, R. V.

8

TITLE: Disintegration of  $\Lambda^3$  in Coulomb field and pickup of  $\Lambda$  particles by heavy nuclei

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1740-1741

TOPIC TAGS: tritium, lambda particle, particle disintegration, Coulomb field, pickup reaction

ABSTRACT: A preliminary study was made of the disintegration of  $\Lambda^3$  in the Coulomb field of heavy nuclei. In view of the small binding energy of  $\Lambda^3$ , it is assumed that its Coulomb disintegration occurs principally when it is located at large distances from the core (deuteron), so that the two-body approximation can be used and

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L 14513-65

ACCESSION NR: AP5000324

the deuteron can be assumed to be pointlike. The calculated value of the cross section is found to be quite large and to increase at low energies, decrease at high energies, and thus have a maximum. A crude estimate yields a maximum cross section of 150 barns for silver at an energy of 4.5 MeV. It is shown further that the hyperons released can be captured by the nuclei with appreciable probability. For silver at primary  $H^3$  energy of 15 MeV the corresponding cross section is  $\sim 1.5$  barn. <sup>A</sup> Orig. art. has: 2 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 14Feb64

ENCL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 005

Card 2/2

VEDRINSKIY, R.V.

Slight disturbances of symmetry. Izv. vys. ucheb. zav.; fiz. no.5:  
139-143 '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

KOLESNIKOV, N.N.; VEDRINSKIY, R.V.

Splitting of  $\Lambda H^3$  in a Coulomb field and the capture of  $\Lambda$ -particles  
by heavy nuclei. Zhur. eksp. i teor. fiz. 47 no.5:1740-1741 N '64.

(MIRA 18:2)

.. Moskovskiy gosudarstvennyy universitet.

VEDRINSKIY, N.V.; *ibid.*

Splitting of hypernuclei in a Coulomb field, Vest.Mosk. un. Ser. 3:  
Fiz., astron. 20 no.2:71-80 Mr-Apr '65.

(MIRA 18:5)

1. Kafedra kvantovoy teorii Moskovskogo universiteta.

VEDRINSKIY, R.V.

Evaluation of wave functions analytical with respect to  
energy. Vest. Mosk. un. Ser. 3 Fiz., astron. 19  
no.4:81-82 J1-Ag '64. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki  
Moskovskogo universiteta.

L 44043-66 EWT(m)/T

ACC NR: AP6032235

SOURCE CODE: UR/0367/66/003/005/0916/0950

AUTHOR: Kolesnikov, N. N.; Vedrinskiy, R. V. 49  
BORG: Institute of Nuclear Physics, Moscow State University (Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta) 19TITLE: Interactions of light hypernuclei and lambda-particles with nuclei

SOURCE: Yadernaya fizika, v. 3, no. 5, 1966, 946-950 19

TOPIC TAGS: nuclear emulsion, particle interaction, Coulomb field

ABSTRACT: The disintegration of light hypernuclei in the Coulomb field of heavy nuclei is investigated in the low and high energy approximations and also in the quasiclassical case. The cross-section of the process is sensitive to the value of the hypernuclear binding energy  $B_{\Lambda}$ . For  $\Lambda H^3$ , where  $B_{\Lambda}$  is anomalously small, the cross-section can become very large, so that the Coulomb disintegration must be taken into account when analyzing  $\Lambda H^3$  tracks in photoemulsion and in the production of hypertritium. The probability of  $\Lambda$ -particle capture by heavy nuclei, with the formation of heavy hypernuclei and emission of nucleons, is estimated. Orig. art. has: 14 formulas. [JPRS: 36,712]

SUB CODE: 20 / SUBM DATE: 13Jul65 / ORIG REF: 007 / OTH REF: 003

Card 1/1 815

0919 1260

VEDRINSKIY, V.

AID P - 2239

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 3/19

Author : Vedrinskiy, V., Capt.

Title : On "Reaching the target at a given time"

Periodical: Vest. vozd. flota, 7, 15-18, J1 1955

Abstract : The author discusses critically an article of this title by Bulatov, A., Artyunov, V., and K. Chemard printed in this periodical earlier this year Feb. 1955. He points out that only two methods of reaching the target at a given time are considered and that only one gives satisfactory results. He points out errors and suggests solutions. Diagrams, formulae.

Institution: None

Submitted : No date

VEDRINTSEV, G.A.

Calculation of GVK-2 plates of electric sounding (horizontal-  
vertical contacts of four media with  $\epsilon' = \infty$ ). Prikl. geofiz.  
no.36:253-255 '63. (MIRA 16:9)  
(Electric prospecting)



VEDRINTSEV, G.A.

Problems in the technique and interpretation of electric soundings  
in case of distinct structural forms of a high-resistivity base  
horizon. Prikl. geofiz. no.29:72-119 '61. (MIRA 14:6)  
(Electric prospecting)

VEDRINTSEV, G.A.

Field laboratory for electric prospecting in the Far North.  
Razved. i prom. geofiz. no. 10:18-25 '54. (MIRA 13:2)  
(Arctic regions—Electric prospecting)

VEDRINTSEV, G.A.

Transformation of observed electric survey curves. Razved. i prom.  
geofiz. no.25:57-66 '58. (MIRA 12:4)  
(Prospecting--Geophysical methods)

BERDICHEVSKIY, M.N.; VEDRINTSEV, G.A.

Differential transformations of electric sounding curves. Razved.  
i okh. nodr 29 no.7:46-49 J1 '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh  
metodov razvedki.

(Electric prospecting)  
(Transformations (Mathematics))

VEDRINTSEV, G.A.; TSEKOV, G.D.

Obtaining multi-layer theoretical curves of vertical electrical  
prospecting by means of analysis and combination with graphic  
methods. Razved i prom. geofiz. no.20:36-46 '57. (MIRA 11:4)  
(Prospecting--Geophysical methods)

VEDRYNTSEV, G.A.

Theory of electric sounding of horizontal inhomogeneous media.  
Prikl. geofiz. no.26:30-69 '60. (MIRA 13:8)  
(Electric prospecting)

S/169/62/000/007/072/149  
D228/D307

AUTHOR: . Vedrintsev, G. A.

TITLE: Modelling electric soundings over three-layer structures with inclined interfaces ( $\rho_1 > \rho_2, \rho_2 \ll \rho_3, \rho_3 = \infty$ )

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 32-33, abstract 7A214 (V sb. Razved. i promysl. geofiz., no. 41, M., 1961, 52-73)

TEXT: The nature of curves of soundings over three-layer structures with inclined interfaces is studied by the method of modelling. The modelling was carried out in an electrolytic bath with the use of electrode lattice partings, whose theory was developed by L. M. Al'pinyy. Soundings with dipole-equatorial equipment, symmetrical vertical electric soundings, and soundings with the three electrode equipment  $AMN-B \rightarrow \infty$  ( $AMN-B \rightarrow \infty$ ) were carried out in the modelling. The graphs obtained for the impedance quite clearly reflect the main features of the sections under study:

Card 1/2

VEDRINTSEV, G. A.

Electric logging of horizontal nonhomogeneous media. Izv. vys. ucheb.  
zav.; geol. i razv. 3 no.5:125-127 My '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh  
metodov razvedki. (Electric prospecting)



VEDRINTSEV, Kh.V., uchitel'; POZERN, I.V. (Kostroma); NIKITIN, I., uchitel';  
KHUDIS, R.V., uchitel'nitsa (selo Nisporeny Moldavskoy SSR)

Letters to the editors. Geog. v shkole 24 no.4: 71-73 J1-Ag '61.  
(MIRA 14:8)

1. Pushkarskaya shkola Lipetskoy oblasti (for Vedrintsev). 2. 5-ya  
shkola g. Solnechnogorska (for Nikitin).  
(Geography--Study and teaching)

~~VEDROV~~ VEDROV, N. S.

DECEASED 1950

*Medicine*

SEE ILC

VEDROV V. S.

Materialy po aerodinamicheskomu raschetu samoletov. Sbornik statei.  
Pod red. V. L. Aleksandrova. Moskva, 1929. 191 p., illus ., tables,  
diags. (TSAGI. Trudy, no. 42) Summary in English.

Title tr.: Materials of aerodynamic aircraft design.

QA911.M65 no. 42

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library  
of Congress, 1955

VEDROV, V. S., and IU. K. STANKEVICH.

Issledovanie v polete shtopora samoleta R-5 s ruliami razlichnoi formy.  
(Tekhnika vozdushnogo flota, 1934, no. 3, p. 1-27, illus., tables, diagrs.)

Title tr.: Investigation of the spinning characteristics in flight of the  
R-5 airplane with various forms of control surfaces.

TL50h.Th 1934

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

VEDROV, V.S. and I.V. OSTOSLAVSKII

Raschet obduvki monoplannykh kryl'ev s vintami pered krylom. Moskva, 1935. 20 p.,  
diags. (TSAGI. Trudy, no. 232)

Summary in English.

Title tr.: Calculation of the slipstream effect on the efficiency of monoplane wings  
with propellers located before the wing.

QA911.M65 no.232

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
1955

VEDROV, V. S., V. P. GORSKII and M. A. TAITIS.

Sravnenie rezul'tatov ispytaniy plati samoletov v trube i v polete.  
(TSAGI. Trudy, 1935, no. 21h, p. 5-17, diagrs.)

Summary in English.

Title tr.: Comparative results obtained by wind tunnel and flight tests  
of five airplanes.

QA911.M65 no.21h

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

VEDROV, V.S.

O vliianii uprugosti kryl'ev na peregruzki pri posadke samoletov. Moskva, 1935.  
10 p. diagrs. (TSAGI. Trudy, no.219)

Title tr.: Effect of wing elasticity upon loads imposed on it during landing of aircraft.

QA911.M65 no.219

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
1955

VEDROV, V. S., S. A. KOROVITSKII, and IU. K. STANKEVICH.

Issledovanie shtopora samoleta R-5 v polete. Moskva, 1935. 48 p., illus.,  
tables, diags. (TSAGI. Trudy, no. 228)

Summary in English.

Bibliography: p. 48.

Title tr.: Spin flight testing of the R-5 airplane.

QA911.M65 no. 228

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.



VEDROV, V. S., and G. S. KALACHEV.

Issledovanie vykhodov iz planirovanii samoleta R-5. Moskva, 1935. 39 p.,  
illus., tables, diags. (TSAGI. Trudy, no. 244)

Summary in English.

Title tr.: Investigation of pull-out from dives of the R-5 airplane.

QA911.M65 no. 244

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

VEDROV, V. S.

Ob ustoichivosti dvizheniia. Moskva, 1937. 16 p. (TSAGI. Trudy, no. 327)

Title tr.: On the stability of motion.

QA911.M65 no. 327

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

VEDROV, V. S.

VEDROV, V. S.

Dinamicheskaya ustoychivost' samoleta. Utverzhdeno v kachestve  
uchebnika dlia vtuzov NKOP. Moskva, Oborongiz, 1938. 294 p., diags.

Bibliography: p. 291-293.

Title tr.: Dynamical stability of aircraft. Approved as a textbook  
for schools of advanced technical studies of the People's Commissariat  
of the Aviation Industry.

TL574.S7V4

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

VEDROV, V. S.

O vrednom vliianii vesovoi balansirovki rul'a vysoty na staticheskuiu ustoiichivost'.  
(Tekhnika vozdushnogo flota, 1938, 1938, v. 12, no. 5, p. 1-4)

Title tr.: Adverse effect of mass balancing the elevator on the static stability of  
aircraft.

TL504.T4 1938

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
1955

VEDROV, V. S. Prof.

"Forces Acting on Pneumatic Tires Rolling on Curvature," Tekh. vozd.  
flota, May 1941

VEDROV, V. S. and TAYTS, M. A.

"Summer Testing of Aircraft," 1951

VEDROV, V. S.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 279 - I

BOOK

Call No.: AF606910

Authors: VEDROV, V. S., and TAYTS, M. A.

Full Title: AIRCRAFT FLIGHT TESTS

Transliterated Title: Letnyye ispytaniya samoletov

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of the Defense Industry  
(Oborongiz)

Date: 1951

No. pp.: 483

No. of copies: Not given

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: Gratitude is expressed to: Pyshnov, V. S., Professor,  
Goroshchenko, B. T., Professor, Doctor of Technical  
Science, Stroyev, N. S., Kalachev, G. S., Kostochkin,  
V. V., Candidates of Technical Science; and to  
Sidorova, M. A., Engineer

Text Data

Coverage:

The authors describe the general theory and basic methods  
of testing aircraft and aircraft powerplants in flight.  
The information can be applied by the reader to solve new

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Letnyye ispytaniya samoletov

AID 279 - I

problems.

In general the testing methods described are not new or original. However, the book might be of interest because it describes the present testing methods used in the USSR, and because of its theoretical and general approach to this problem.

TABLE OF CONTENTS: Chapters I. Atmosphere, (p. 11); II. Preparation for Testing, (p. 33); III. Errors in Measurement in Flight Testing, (p. 45); IV. Theory of Speed and Altitude-Measuring Instruments, (p. 64); V. Methods of Determination of Speed and Altitude, (p. 86); VI. General Methods of Reducing Flight Data to Standard Conditions, (p. 107), VII. Basic Information on the Conversion of Engine Characteristics, (p. 125); VIII. Determination of Maximum Horizontal and Vertical Speeds, and of the Aircraft's Ceiling, (p. 168); IX. Reduction to the Standard Atmosphere Conditions the Maximum Speed and Rate of Climb Data of Aircrafts with Low Altitude Piston Engines, (p. 189); X. Reduction to Standard Atmospheric Condition of the Maximum Speed and the Rate of Climb Data of Aircraft with

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Letnyye ispytaniya samoletov

AID 279 - I

High Altitude Piston Engine supplied with Variable-pitch propeller Automatic Control, (p. 204); XI. Reduction to the Standard Atmospheric Conditions the Maximum Speed and Rate of Climb of Aircraft with Turbojet Engines, (p. 229); XII. Methods for Measuring Trajectory Elements, (p. 275); XIII. Determination of Stability and Controllability of an Aircraft, (p. 293); XIV. Testing Aircraft for Maneuverability, Spin, and Terminal Velocities, (p. 338); XV. Determination of Take-off and Landing Characteristics of an Aircraft, (p. 356); XVI. Fuel Consumption and the Flying Range, (p. 378); XVII. Testing Turbojet Engines, (p. 420); XVIII. Testing Piston Engines, (p. 378); XIX. Testing Engine-Cooling Systems, (p. 448); XX. Testing of Fuel, Water, and Oil Systems, (p. 463).

The major part of the diagrams in this book are graphical representations of the textual data.

**Purpose:** A textbook approved by the USSR Ministry of Higher Education for aviation universities. It may be also used as a handbook by workers of design bureaus, research institutes, and flying stations of aviation industry plants.

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Letnyye ispytaniya samoletov

AID 279 - I

Facilities: A number of Scientists and of aviation institutions of the USSR are mentioned in the text.

No. of Russian and Slavic References: 3 before 1938, and 17 after this date.

Available: A.I.D., Library of Congress.

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VEDROV, V. S.

PHASE I BOOK EXPLOITATION

350

Vedrov, V. S., Romanov, G. L., and Surina, V. N.

Samolet kak ob'yekt regulirovaniya; strukturnyye skhemy uravneniy vozmushchennogo dvizheniya samoleta (The Control of Aircraft; Block Diagrams of Equations for Disturbed Motions of an Aircraft) Moscow, Oborongiz, 1957. 42 p. 1,020 copies printed.

Sponsoring Agency: USSR Ministerstvo aviatsionnoy promyshlennosti (Its Trudy, Nr 74)

Ed.: Ignat'yeva, A. V.; Tech Ed.: Lebedeva, L. A.

PURPOSE: Presentation of results of scientific research.

Card 1/5

The Control of Aircraft (cont.)

350

COVERAGE: This paper treats the representation of the equations of disturbed motion of an aircraft in terms of block diagrams of closed-loop systems with first- and second-order components, where the input and output signals have a definite physical meaning. The characteristics of the individual components and their variation with aircraft speed and altitude are briefly analyzed. A derivation of the transfer functions in rudder and aileron control is given, and also simplified expressions for the transfer functions in relation to the frequency band, which corresponds to the degeneration of the disturbed motion into simple types. The method of representing the equations of disturbed motion of an aircraft in terms of block diagrams of closed-loop systems permits ready application of the techniques of modern control theory, such as the frequency-response method, the theory of feedback loops, block-diagram analysis, etc., to the analysis of aircraft motion in stability and control problems, and also makes it possible to set up simplified equations of motion as well as transfer functions for control of motion by means of control surfaces. In contrast to existing methods, which

Card 2/5

The Control of Aircraft (cont.)

350

yield approximate transfer functions for rapid angular motions about the center of gravity, these methods readily permit obtaining approximate expressions for transfer functions for the slow motions associated with displacements of the center of gravity. The report contains 7 tables and 15 figures. There are 15 bibliographic references, 4 Russian, 5 American, 1 British, 4 French, and 1 Belgian. The authors express their gratitude for valuable advice to M.A. Tayts, Doctor of Technical Sciences, and Ye.N. Arsen'yev, Engineer.

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| AVAILABLE: Library of Congress  |     |
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IS/EDeV  
7-1-58

SOV/124-58-7-7500

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 26 (USSR)

AUTHORS: Vedrov, V.S., Romanov, L.G., Surina, V.N.

TITLE: The Aircraft as an Object of Control (Analog Circuits for the Equations of Perturbed Aircraft Motion) [Samolet kak ob''yekt regulirovaniya (strukturnyye skhemy uravneniy vozmushchenogo dvizheniya samoleta) ]

PERIODICAL: Tr. M-va aviats. prom-sti SSSR, 1957, Nr 74, 44 pages ill.

ABSTRACT: The methods of the theory of automatic control are used to investigate an instance of perturbed aircraft motion that is not far removed from the aircraft's normal steady-state motion prior to perturbation. Linearized equations for the perturbed motion are examined which are in fact systems of linearized fourth-order equations with constant coefficients. In addition, an investigation is made of nonhomogeneous equations the right-hand sides of which allow for possible small deflections of wing and tail control surfaces caused by the pilot. The flight of an aircraft without an automatic pilot is analyzed. The paper, which consists of two sections, deals in the first section with

Card 1/3



SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

second section with the lateral perturbations. Each section is comprised of three paragraphs. The first paragraph of each section shows how analog circuits for the equations of a perturbed motion (longitudinal or lateral) can be set up. It turns out that some of the links of the analog circuit form a closed "stability contour" (i.e., a contour of stabilization), whereas the remaining links constitute "branches" of the outputs of the various parameters of the motion, or inputs containing the control-surface deflections ("control links"). The analog circuit for the longitudinal motion is so set up that its stability contour includes the variations in speed and angle of attack. The "branches" include the variations in the pitch attitude, the flight altitude, the slope of the flight path, and elevator deflection. In the analog circuit for the lateral motion the stability contour includes the variations in the angle of bank and yawing velocity. One of the "branches" represents the output of the sideslip angle. The second paragraph of either section contains a brief analysis of the characteristics of the individual links. An account is given of the amplitude-frequency and phase-frequency characteristics of the links making up the stabilization contour. They are set up to simulate aerodynamic coefficients that characterize modern subsonic jet aircraft. The relationship of the characteristics of the links to the flying speed and flight altitude is then analyzed. In each of the third paragraphs transfer functions are evolved for the

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SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

control of an aircraft with tail control surfaces and ailerons. To simplify analysis of the transfer functions and to enhance clarity, the authors at the end of each section give approximate simplified theories of the transfer functions. These theories are based on the fact that in both the longitudinal and the lateral motion the frequencies of the individual links are widely separated from one another on the frequency scale. In the first section a theory is offered for the short-period high-frequency perturbed motion, followed by a theory of the long-period perturbed motion. In the second section, transfer functions are obtained for three distinct types of perturbed motion, considered separately: a slow spiral motion, a rapid oscillatory motion (with the use of the rudder control only), and a fast rolling motion (with control by the ailerons only).

L.V. Klimenko

1. Aircraft--Control systems
2. Airplanes--Performance
3. Mathematics--Applications
4. Control systems--Theory

Card 3/3

VOLAKOVA,N.; JANDASEK,L.; HABANEC,B.; VEDROVA,D.; ZBYTOVSKY,B.; VOBECKY,J.

Epidemic of myocarditis in newborn infants caused by Coxsackie  
B1 virus. Cesk. epidem. 13 no.2:88-95 8 My'64

1. Mikrobiologicky ustav lek.fak.UJEvP, Brno; II. Patol.-anat.  
ustav lek.fak. UJEvP, Brno; I.Detska klinika lek. fak. UJEvP,  
Brno; OUNZ Boskovice a KHES v Brne.

\*

VEDROVA, D.

Effect of splenectomy in the newborn period on further development  
in children. Cesk. pediat. 18 no.2:150-154 F '63.

1. I. detska klinika lekarske fakulty UJEvP v Brne, prednosta prof.  
dr. Zd. Brunecky.

|                             |                   |                     |
|-----------------------------|-------------------|---------------------|
| (SPLENECTOMY)               | (GROWTH)          | (ERYTHROCYTE COUNT) |
| (LEUKOCYTE COUNT)           | (BLOOD PLATELETS) | (RETICULOCYTES)     |
| (INFANT PREMATURE DISEASES) | (SPLENIC RUPTURE) |                     |

HLAVON, Jiri; VEDROVA, Drahomila

Effect of glucuronic acid on hyperbilirubinemia in newborn infants  
and on the elimination of bile pigments in the feces. Cas. Lek. Cesk.  
101 no.11:327-331 16 Mr '62.

1. I detska klinika lek. University J. Ev. Purkyne v Brne, prednosta  
prof. MUDr. Zd. Brunecky.

(GLUCURONATES pharmacol) (BILIRUBIN blood)  
(FECES chemistry)

POLITZER, Max; VEDROVA, Drahomira

Obstruction of the lacrimal apparatus in premature infants. Cesk.  
oftal. 18 no.1:29-33 Ja '62.

1. Oční klinika University J.Ev. Purkyne v Brně, prednosta prof.  
MUDr. J. Vanysek, Dr.Sc. I. detská klinika University J. Ev. Purkyne  
v Brně, prednosta prof. MUDr. Z. Brunecky.  
(LACRIMAL APPARATUS diseases) (INFANT PREMATURE diseases)

VEDROVA, I. N.

Vedrova, I. N. - "A singular case of epidermodysplasia verruciformis," Vestnik Venerologii i Dermatologii, 1949, No. 2, p. 46-48, - Bibliog: p. 47-48

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

VEDROVA, I. N.

Chemical Abstracts  
Vol. 48 No. 5  
Mar. 10, 1954  
Biological Chemistry

Evaluation of method of determination of penicillin concentration in organs of experimental animals. I. N. Vedrova (Central Dermatol.-Venereal. Inst., Ministry Health, Moscow). *Vestnik Venerol. Dermatol.* 1953, No. 6, 28-6. In extn. of penicillin from animal tissues better results are obtained with use of  $H_2O$  and  $BuOAc$  when the method of serial dilns. is employed. For extn. with phosphate buffer the plate method can be used. Q. M. Kosolapoff



VEDROVA, I. N.

Dissertation: "The Effect of Overheating on the Content of Penicillin in the Organs and Tissues of Healthy Rabbits and of Those Infected with Syphilis." Cand Med Sci, Moscow Medical Stomatological Inst, Ministry of Health, RSFSR, Moscow, 14 Jun 54. (Meditsinskiy Rabotnik, Moscow, 4 Jun 54)

SO: SUM 318, 23 Dec. 1954

VEDROVA, I.N.

Effect of heat on the penicillin content of organs and tissues of healthy and syphilitic rabbits. Vest. ven. i derm. no.5:36-40  
S-0 '55. (MLRA 9:1)

1. Iz otdela sifilidologii (zav. prof. N.S. Smelov) TSentral'nogo kozhno-venerologicheskogo instituta (dir. dots. N.M. Turavov) Ministerstva zdravookhraneniya SSSR i kafedry kozhnykh i venericheskikh bolezney (zav. prof. B.M. Pashkov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. dots. G.N. Beletskiy)

(SYPHILIS, experimental,  
eff. of fever on penicillin contents in rabbits)  
(FEVER, EFFECTS,  
on exper. syphilis treated with penicillin in rabbits)  
(PENICILLIN, effects,  
on exper. syphilis, combined with fever ther. in rabbits)

LAPTEV, V.A., starshiy nauchnyy sotrudnik, zasluzhenyy vrach RSFSR; VEDROVA,  
I.N., kandidat meditsinskikh nauk

Limited recurrent bullous eruptions in patients with pronounced  
porphyrinuria. Vest.ven. i derm. no.3:15-18 My-Je '56. (MLRA 9:9)

1. Iz otdela dermatologii (zav. - prof. N.S.Smelov) TSentral'nogo  
kozhno-venerologicheskogo instituta (dir. - dotsent N.M.Turanov)  
Ministerstva zdavookhraneniya SSSR.

(PORPHYRIN, in urine,  
excess in dermatitis bullosa (Rus))  
(DERMATITIS,  
bullosa with porphyrinuria (Rus))  
(URINE,  
porphyrinuria in dematitis bullosa (Rus))

SKRIPKIN, Yu.K.; SHARAPOVA, G.Ya.; VEDROVA, I.N.

Treatment of trophic ulcers with cygerol. Vest.derm. i ven.  
37 no.1:77-78 Ja'63. (MIRA 16:10)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.  
M.M.Zheltakov) II Moskovskogo meditsinskogo instituta imeni  
N.I.Pirogova.  
(ULCERS) (ACETIC ACID—THERAPEUTIC USE)

VEDROVA, I. N.; SHARAPOVA, G. Ya.

Treatment of children with eczema, prurigo and diffuse neurodermatitis with ACTH and cortisone. *Pediatrics* no.11:60-64 '61.  
(MIRA 14:12)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. M. M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni I. N. Pirogova.

(SKIN--DISEASES) (ACTH) (CORTISONE)

VEDROVA, I.N., assistant

Treatment of patients with psoriasis with vitamin A and irradiation  
with a mercury-quartz lamp. Sov. med. 25 no.8:111-113 Ag '61.  
(MI: A 15:1)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.  
M.M.Zheltakov) II Moskovskogo gosudarstvennogo meditsinskogo instituta  
imeni N.I.Pirogova.

(PSORIASIS) (VITAMINS--A)

(ULTRAVIOLET RAYS--THERAPEUTIC USE)

SKRIPKIN, Yu.K.; SOMOV, B.A.; VEDROVA, I.N.

Treatment of verruca plantaris, plana and vulgaris with Gordeev's  
paste. Sov. med. 25 no.5:151-153 My '61. (MIRA 14:6)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. M.M.  
Zheltakov) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova  
(dir. - dotsent M.G.Sirotkina). (CYTOTOXIC DRUGS)  
(FOOT--TUMORS)

KOGAN, A.Kh.; CHECHULIN, A.S.; Prinimali uchastiye: VEDROVA, N.N., student;  
FILIMOVA, M.V., student (Moskva)

Analysis of the importance of the mechanical factor in the blasto-  
mogenic action of compressive cellophane capsules applied to the  
kidneys. Arkh.pat. 20 no.1:44-49 '58. (MIRA 13:12)

1. Iz kafedry patofiziologii (zav. - prof. S.M.Pavlenko) i iz  
TSentral'noy nauchno-issledovatel'skoy laboratorii imeni prof.  
S.I. Chechulina (zav. A.S.Chechulin) I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni I.M. Sechenova.  
(KIDNEYS---TUMORS) (CELLOPHANE---PHYSIOLOGICAL EFFECT)



VEDROVA, I.N.; CHISTYAKOVA, I.A.

Treatment of psoriasis with the anthraminic ointment. Vest. dermat. i ven. 38 no.7:73-74 J1 '64. (MIRA 18:4)

1. Kafedra kozhnykh bolezney (zav. -- prof. M.M.Zheltakov) II  
Moskovskogo meditsinskogo instituta imeni Pirogova i Moskovskiy  
gorodskoy kozhno-venerologicheskoy dispensar.

RYEKIN, I.N.; VEDROVA, N.N. (Moskva)

Therapeutic action of ermit in stenocardia. Klin.med. no.1:40-  
43 '62. (MIRA 15:1)

1. Iz propedevticheskoy terapevticheskoy kliniki (dir. - deyst-  
vitel'nyy chlen AMN SSSR prof. V.Kh. Vasilenko) I Moskovskogo  
ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.  
(ANGINA PECTORIS) (VASODILATORS)

RYBKIN, I. N.; VEDROVA, N. N. (Moskva)

Post-commissurotomy syndrome (preliminary report) Klin. ned. no. 11:  
70-73 '61. (MIRA 14:12)

1. Iz propedavtskoy terapevticheskoy kliniki (dir. - deystvitel'  
nyy chlen AMN SSSR prof. V. Kh. Vasilenko) I Moskovskogo ordena  
Lenina meditsinskogo instituta imeni I. M. Sechenova.

(MITRAL VALVE--SURGERY)

VEDULA, Yu. S.

109-12-7/15

AUTHORS: Vedula, Yu.S. and Gavriilyuk, V.M.

TITLE: Thermo-chemical Reduction of Barium Oxide by Various Activators (Termokhimicheskoye vosstanovleniye bariya iz ego okisi razlichnymi aktivatorami)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, No.12, pp. 1519 - 1524 (USSR)

ABSTRACT: Understanding of the mechanism of the operation of thermionic cathodes requires the knowledge of the value of the saturated barium vapour pressure in the presence of BaO and the activators. This work aimed at determining the pressure and its temperature dependence. The experiments were carried out on a special tube which is shown in Fig. 1. The tube consisted of: 1) a container; 2) a heater; 3) a tungsten ribbon; 4) an electron gun, and 5) an Alpert-type ionisation vacuum gauge. The investigated reaction was taking place in the container, which consisted of two hollow cylinders. The container had an aperture of about 0.5 mm at its lower end. The stream of barium atoms ejected from the aperture of the container was collected by the tungsten ribbon. The experimental results of an investigation of the reactions of  $\text{BaCO}_3$  and BaO, where BaO is a product of the decomposition of  $\text{BaCO}_3$ , are

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109-12-7/15

Thermo-chemical Reduction of Barium Oxide by Various Activators.

illustrated in Figs. 2, 3, 4, 5 and 6. Fig. 3 shows the barium vapour pressure as a function of temperature for a cathode with tungsten activator (the tungsten was in the form of a very fine powder). A similar curve for the barium vapour pressure of a system with silicon activator is given in Fig. 4, while Figs. 5 and 6 show the pressure for tantalum and titanium activators, respectively. The results are additionally summarised in Table 1, p.1524. From the data obtained, it follows that, at 1 600 °K, molybdenum has the lowest reducing properties and it is followed by silicon, tungsten and tantalum; at operating temperatures of about 1 300 °K, the reducing properties are the lowest in molybdenum and the highest in titanium. The authors thank N.D. Morgulis for his constant attention and help. There are 6 figures, 1 table and 19 references, 8 of which are Slavic.

ASSOCIATION: Physics Institute AS Ukrainian SSR, Kiev  
(Institut fiziki AN USSR, g. Kiev)

SUBMITTED: May 8, 1957.

AVAILABLE: Library of Congress  
Card 2/2

VEDULA, Yu.S. [Vedula I.U.S.]; GAVRILYUK, V.M. [Havryliuk, V.M.]

Adsorption of barium atoms and barium oxide molecules on tungsten.  
Part 1. Ukr.fiz.zhur. 3 no.5:632-650 S-O '58. (MIRA 12:2)

1. Institut fiziki AN USSR.  
(Adsorption) (Barium) (Bariumoxide)

66277

SOV/181-1-11-12/27

~~24(6)~~ 24.7700

AUTHORS: Vedula, Yu. S., Gavriluk, V. M., Morgulis, N. D.

TITLE: On the Electronic and Adsorption Properties of Films of Barium Atoms on the Surface of Tungsten Coated With Oxygen

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 11, pp 1717 - 1719 (USSR)

ABSTRACT: Investigations were carried out to establish whether Ba-O-W-films are suitable for thermal cathodes. A measure for the suitability is the work function ( $\phi$ ) of the electrons and the increased adsorption stability of these layers. The measuring method is described in detail in reference 1. The films Ba-O-W ( $\phi_K = 5.1$  ev, 5.5 ev, 5.9 ev, 6.3 ev) were examined in the temperature range 800 - 2000°K. The measuring results are graphically presented in figure 1. It is remarkable for the Ba-O-W-system that a noticeable irregularity occurs from 1400 - 1500°K, which still has to be clarified. Comparing the Ba-O-W-system with the BaO-W-system it appears as if, in the BaO-W-system, the BaO-molecule would completely evaporate, while it seems that in the other system the Ba and the O evaporate separately. One could conclude from this fact that the two systems are not

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On the Electronic and Adsorption Properties of Films SOV/181-1-11-12/27  
of Barium Atoms on the Surface of Tungsten Coated With Oxygen

identical. Further examinations were made to establish whether the systems O-Ba-W and Ba-O-W are identical (Fig 2). The measuring results point to the fact that the two systems are not of the same valency, but that the system O-Ba-W easily changes over to the system Ba-O-W, which is the more favorable and is more stable energetically. There are 2 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut fiziki AN USSR, Kiyev ( Institute of Physics of  
the AS UkrSSR, Kiyev)

SUBMITTED: March 24, 1959



Card 2/2



VEDULA, Yu.S.; GAVRILYUK, V.M.[Havryliuk, V.M.]

Adsorption of atoms of barium on tungsten covered with an adsorbed film of oxygen. Ukr. fiz. zhur. 5 no.6:816-833 N-D '60.

(MIRA 14:3)

1. Institut fiziki AN USSR.  
(Adsorption)

35197

S/185/62/007/002/010/016  
D299/D302

9,3120 (1140, 1163, 1532)

AUTHOR: Vedula, Yu.S.

TITLE: Electronic and adsorptive properties of a barium film  
on thorium-oxide surface

PERIODICAL: Ukrayins'kyi fizychnyy zhurnal, v. 7, no. 2, 1962,  
196 - 200

TEXT: The electronic- and adsorptive properties of the system Ba-ThO<sub>2</sub> were investigated by a method, used earlier by the author for the system Ba-W. The method was described in detail in Yu.S. Vedula and V.M. Havrylyuk (Ref. 1: Ukr. Fizychn. zh., 3, 632, 1958). The thorium oxide was vaporized at a temperature of 2400°K approximately. A mass-spectrometer analysis of the vaporization products showed that the molecular beam was composed (at working temperatures) by a mixture of ThO and ThO<sub>2</sub> in approximately equal proportion. The Ba-atom source was a tantalum tube, filled by the getter "БАН" (BATI). Conclusions: The investigated system Ba-ThO<sub>2</sub> differs from

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Electronic and adsorptive properties ... S/185/62/007/002/010/016  
D299/D302

the system Ba-W (earlier studied by the author), with regard to the optimum values of the work function and to the heat of adsorption. The work function of the  $\text{ThO}_2$ -film, applied in 20 - 30 mono-molecular layers to a tungsten filament, depends on the temperature of the tungsten base; the work function equals 2.6 and 3. lev. at (base) temperatures of 300 and 1340°K, respectively. The dependence was measured of the work function of variously treated thorium-oxide films on the concentration of Ba-atoms, adsorbed on these films. The minimum value of the work function varied (depending on method of preparation and treatment) between 2.2 - 2.5 ev. which exceeds the corresponding values for the system Ba-W. The dependence was measured of the adsorption heat of Ba (on the  $\text{ThO}_2$ -films), on the concentration of the adsorbed Ba-atoms. With zero coating, the adsorption heat of Ba on  $\text{ThO}_2$ -films, applied to a cold base, is 3.8 ev., and to hot base -- 4.65 ev.; the adsorption heat on  $\text{ThO}_2$ -films decreases much faster than the adsorption heat of Ba on W. There are 4 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-

Card 2/3

Electronic and adsorptive properties ... S/185/62/007/002/010/016  
D299/D302

bloc.

ASSOCIATION: instytut fizyki AN URSR (Institute of Physics of the  
AS UkrRSR), Kyiv

SUBMITTED: March 21, 1961

4

Card 3/3

VEDULA, Yu.S.; GAVRILYUK, V.M.; MEDVEDEV, V.K.

Effect of electron bombardment on the adsorption properties of a tungsten surface. Fiz. tver. tela 4 no.9:2550-2553 S '62.  
(MIRA 15:9)

1. Institut fiziki AN UkrSSR, Kiyev.  
(Electrons) (Tungsten)

L 8154-66 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WW/JG

ACCESSION NR: AP5019887

UR/0181/65/007/008/2547/2549

AUTHOR: Vedula, Yu. S.; Gavrilyuk, V. M.

TITLE: Direct proof of the positive charge of adsorbed Th atoms

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2547-2549

TOPIC TAGS: thorium, physical diffusion, surface property, conduction electron, electron scattering, transport phenomenon, work function

ABSTRACT: In a search for experimental proof that electropositive adsorbed atoms have a positive charge, the authors investigated the surface diffusion of adsorbed Th atoms under the influence of a uniform electric field produced by the voltage drop in a conductor carrying electric current, and by the force of the "electronic wind" which is produced when the conduction electrons are scattered by the adsorbed atoms. The hypothesis was that if a film of adsorbed atoms is produced on the surface of the metal, and if the adsorbed atoms are capable of diffusing over the surface, then direct current flowing through the substrate should cause electric transport of the adsorbed-film matter along the crystal. The Th film was deposited on W, and the distribution of the work function along the crystal was measured by means of a moving electron gun, the position of which was measured with a micro-

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0902 019

L 8154-66

ACCESSION NR: AP5019887

6

scope. The diameter of the electron beam was  $\sim 15 \mu$ . The distribution of the degree of the crystal was determined by plotting the work function against the time of film sputtering. The experiment is briefly described. The results show clearly presence of electric transport under the influence of the Coulomb force in the direction of the negatively-charged section of the crystal. However, the presence of "electron wind" in this case still remains open. "The authors thank Yu. M. Konoplev for help with preparing the experiment." Orig. art. has: 1 figure. 44, 55

ASSOCIATION: Institut fiziki AN UkrSSR, Kiev (Institute of Physics AN UkrSSR)

SUBMITTED: 27Mar65

ENC: 00

44, 55

SUB CODE: SS

NR REF SOV: 008

OTHER: 000

nw

Card 2/2

VEDUR, A.

"Dry transformer as an element of a complex combined device." Vol. 3, No. 5/6, 1954, p.61.

Radio, Sofiya.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.G.



VEDUR, A.

TUU-100 measuring circuit. p.29.

(RADIO I TELEVIZIIA, Vol. 6, no. 1, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

VEDUR, A1.

Measuring instruments of radio lovers. Radio i televiziia 11 no.4:123-124 '62.

VEDUR, A.

Some rules for the construction of volt-ampere meters for direct and  
alternating currents. p. 11.

(RADIO I TELEVIZIJA, Vol. 6, no. 5, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

KASPEROVICH, Yevgeniy Konstantinovich; VEDUT, N.I., kand. ekon. nauk,  
red.; LEONENKO, I., red. izd-va; TURTSEVICH, L., tekhn.red.

[Specialization and cooperation in the machinery industry of  
the White Russian SSR] Spetsializatsia i kooperirovanie v ma-  
shinostroenii Belorusskoi SSR. Minsk, Izd-vo Akad. nauk BSSR,  
1962. 264 p. (MIRA 16:4)

(White Russia—Machinery industry)

ACCESSION NR: AP4012525

S/0056/64/046/001/0071/0079

AUTHORS: Leontovich, A. M.; Veduta, A. P.

TITLE: Mode excitation and explanation of the divergence of radiation from a ruby laser

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 71-79

TOPIC TAGS: laser, ruby laser, natural oscillation, resonant mode, resonator, plane parallel resonator, spherical resonator, laser spike, spike mode content, laser beam divergence, ruby homogeneity

ABSTRACT: The natural modes excited in each spike for a ruby laser with plane parallel mirrors was investigated with a high-speed SFR-2M camera operating in the "time magnification" mode. Rubies 5 cm long and 7 mm in diameter were used, and the distances between mirrors ranged from 5 to 49 cm. Simultaneous pictures of the radiation distribution in the near and far fields show that the excited modes correspond to those produced by a spherical rather than a plane-parallel resonator. This phenomenon is attributed to inhomogeneity.

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ACCESSION NR: AP4012525

geneities produced in the crystal during its growth or by uneven heating by the pumping light. The inhomogeneities reduce strongly the region of mode excitation, decrease the distance between nearest maxima, and increase greatly the divergence of the beam. If the crystal is not of prime quality, scattering increases the divergence further. "The authors are deeply grateful to M. D. Galanin for discussion and constant interest in the work, and to L. A. Vaynshteyn for discussion." Orig. art. has: 5 figures, 10 formulas, and 2 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR  
(Physics Institute, AN SSSR)

SUBMITTED: 12Jul63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: PH

NO REF SOVI: 004

OTHER: 018

Card 2/2



L 25283-65

ACCESSION NR: AP5004378

distribution, number, and shape of the interference bands varied during pumping, which indicates that the total optical length and shape of the resonator undergo considerable changes due to heating. The nonuniform heating is due to the focusing of the pumping light by the lateral surfaces of the ruby and the generation of internal modes in the ruby. Heating of the ruby rods was proportional to the concentration of chromium in the ruby. The energy absorbed by various ruby rods during pumping and the efficiency of the pumped source were calculated. The theoretical and experimental results varied by a factor of 1.5-2. The discrepancy between the theoretical and experimental results might be due to the existence of the metastable state in the excited state of the ruby. The laser power output and the efficiency of the pumped source are shown in figures and 1 table.

ASSOCIATION: Fizicheskii Institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics, Academy of Sciences, USSR)

NO REF SOV: 009

OTHER: 006

ATD PRESS: 3184

2/2



LEVIN, Iosif Ben'yaminovich; PEKELIS, Grigoriy Borisovich;  
YANCHENKO, Aleksandr Pavlovich; VEDUTA, N.I., red.;  
PEKELIS, G.B., red.; DAVIDOVICH, Z., red. izd-va;  
KOVALENKO, A., tekhn. red.

[Power engineering in the White Russian S.S.R. and its  
potentials] Elektroenergetika BSSR i ee rezervy. Minsk,  
Izd-vo AN BSSR, 1963. 215 p. (MIRA 17:3)

YEROTA, Nikolay Ivanovich; YASHCHITSKY, P.I.; Iekhter tekon.  
nauk. red.

[Economic efficiency of new techniques] Ekonomicheskaya  
effektivnost' novoi tekhniki. Minsk, Izd-vo "Nauka,"  
1964. 335 p. (MIRA 17.7)

VEDUTA, N.I., red.

[Economic resources in socialist industry] Rezervy ekonomii v  
sotsialisticheskoi promyshlennosti. Minsk, 1961. 258 p.  
(MIRA 16:2)

1. Akademiya navuk BSSR, Minsk. Instytut ekonomiki.  
(White Russia—Industries)

VEDUTA, N. / .

Institute of Economics of the Academy of Sciences of the White  
Russian S.S.R. Vop. ekon. no.7:170-172 J1 '58. (MIRA 11:8)  
(White Russia--Economic policy)

VED TA, N.I.

- 2) A Ya Buzdaryk - The Differential Equations of Expanded Reproduction
  - 3) I V Kuznetsov - Optimal Planning and Economic Indicators
  - 4) A A Kuznetsov - Mathematical Analysis of the Economic Composition of Production
  - 5) N I Nodina - Mathematical Analysis of Rates and Proportions in the National Economy (Primarily in Determining the Economic Efficiency of Capital Investment)
  - 6) B I Rykova, B P Kuznetsov - Price Relationships in Expanded Reproduction
  - 7) I N Nodina and V S Yekman - Statistical (and) and Dynamic Models of a Socialist National Economic Balance in Physical Terms
- c. Evening Session - 15 December 1979, 1600 hours
- II. The Theory of Linear Programming
- 1) S S Boboshvitskiy - Review of Methods for the Solution of Linear Programming Problems
  - 2) A I Lur'yev - Algorithmic Solutions of Transport Problems Through Approximation by Means of Hypothetically Optimal Flows
  - 3) Ya P Gornitskiy - The Algebra of Linear Programming
  - 4) B V Mikhail'skiy - Recommendation for a Method of Re-computing Matrices of Unitary Coefficients under Conditions of Changing Technology
  - 5) S Chistyakov - A Practical Interpretation of Kantorovich's Controlling Multipliers
  - 6) Sidor and Kuznetsov - Linear Programming Methods and Material Supply
- d. Morning Session - 16 December 1979, 1000 hours
- III. Economic Models and Dynamic Programming
- 1) V V Kuznetsov - Mathematical Models of the National Economy in Economic Economics and a Critical Survey
  - 2) B B Mikhail'skiy - Mathematical Methods of Determining the Maximum Efficiency of Capital Investment
  - 3) V V Gulyaevskiy - Constructing the Economic Cycle Models and Dynamic Economic Models of Economic Economics
  - 4) V V Trifonovskiy - Problems in the Application of Dynamic Programming in Economic Economics Models and the Analysis of Certain Economic Indicators
  - 5) I Gorbunov - The Dynamic Programming Method and Its Use in Economics
  - 6) V I Gorbunov - The Dynamic Programming Method and Its Use in Economics
  - 7) B I Gorbunov - The Dynamic Programming Method and Its Use in Economics
- e. Evening Session - 16 December 1979, 1600 hours
- IV. The Transportation Problem
- 1) B I Volovoy - Finding the Most Suitable Assignment of Various Types of Fleet Vessels to Lines
  - 2) A N Poyanovskiy - Extremal Methods in Economic Research on the Optimum Spatial Distribution of Projects
  - 3) S P Bagdasaryan - The Application of Linear Programming to Air Transport Economics

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Borehole charges with a longitudinal cumulative groove.  
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(Blasting)

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AUTHOR: Vedutia, V. E. (Mining engineer); Kropotov, V. A. (Mining engineer); Beketov, P. Ye. (Mining engineer); Nikolayev, V. P. (Mining engineer)

TITLE: Some results of an investigation into the effect of the explosion of shot-hole cumulative charges

SOURCE: Nauchno-tekhnicheskoye gornoye obshchestvo. Vzry\*vnaye delo, no. 54/11, 1964. Upravleniye deystviyem vzry\*va (Control of blasting operations), 219-230

TOPIC TAGS: blasting, mine blasting, cumulative charge, shot hole, blast hole, horizontal excavation

ABSTRACT: The authors discuss some results obtained in a detailed study of the effectiveness of shothole charges of cumulative effect in horizontal excavation work. The study was based on the use of a charge with lateral cumulative surface, the characteristic feature of such a charge being the location of the cumulative cut or gap not at the end of the charge, but along its side and running the full length of the charge. This makes it possible to obtain a greater active volume of explosive material and to employ it more rationally. In such charges, the cumulative stream forms along the entire length of the charge, while the direction of the effect of the stream promotes a more efficient formation of an additional open surface. The study was conducted under laboratory and field conditions. In Card 1/3